

inferences in choosing one or other of them. There are, in fact, occasions when they are free from the dominating influence of directive instinct. In some cases, indeed, reason appears to have actually modified instinct. Caterpillars that have protected themselves by rolling up leaves have, under different circumstances, taken to burrowing within them: beetles that rolled up balls of dung (for the deposit of their eggs) have taken advantage of sheep droppings: a New Zealand parrot (*Pastor mutabilis*) has within recent years become carnivorous, and causes much loss to farmers by wounding sheep. Birds and insects will occasionally alter the customary form and situation of their nests, and will make shift to economize materials. A crucial case, quoted by Romanes, is that of a flycatcher which nested in a conservatory and, appreciating the heat maintained by the furnace, left its eggs to hatch of themselves. In all these cases there must have been some distinguishing of properties, and inferring from experience. A familiar illustration is that of a dog which has been shut into a garden. At first he will endeavour to scrape himself under the gate, or through the bars, but if he fails to get past and is an intelligent animal, he will attempt to jump the gate. He notices that the gate has the property of being surmounted by a jump, and infers from past experience that he can leap over it. He would not try to jump a high

wall. Man
has been assisted in outdistancing the
most
intelligent quadrupeds by his almost
total loss
of directive instinct: he must rely
upon his
reason. whereas the dog or the
monkey is subject
to instinctive promptings which
confuse its
reasoning faculties. Habit, it is true,
similarly
enables man to dispense with his
reason : but
habit is less imperious than instinct,
and may